

CLAIMS

1. A slave apparatus capable of communicating with a master device through a predetermined communication bus and having a plurality of communication modes of diverse kinds, said slave apparatus comprising:

judging means of transmitting to said master device a notification code of notifying a presently set-up own communication mode, and then judging whether a command in response to said notification code is received from said master device within a predetermined time or not; and

communication controlling means of performing control on the basis of a judgment result of said judging means in such a manner that when a command in response to said notification code is received from said master device within the predetermined time, a state permitting communication with said master device is established in correspondence to the command, and that when said command is not received within said predetermined time, connection to said master device is electrically released temporarily and then said connection is restored; wherein

by the time when said slave apparatus and said master device resume communication as a result of said restoration of connection, said communication controlling means selects one from a plurality of said communication modes so that its own communication mode is changed into one different from that used

immediately before said release.

2. The slave apparatus according to Claim 1, wherein said predetermined communication bus is a USB (universal serial bus) type.

3. The slave apparatus according to Claim 2, wherein said communication controlling means performs said release by pulling up or pulling down a voltage applied to a D⁺ or a D⁻ line of said USB.

4. The slave apparatus according to Claim 2, wherein said communication controlling means performs said release by turning OFF a V_{BUS} line through which a voltage from said host device is supplied in said USB.

5. The slave apparatus according to Claim 1, wherein a plurality of said communication modes include at least two modes selected from a mode corresponding to an imaging class, a mode corresponding to a mass storage class, a mode corresponding to a customized class, and a mode corresponding to a streaming class.

6. The slave apparatus according to Claim 5, wherein said mode corresponding to a mass storage class among a plurality of said communication modes is set up in itself as an initial

state.

7. The slave apparatus according to Claim 2, wherein said USB is embodied as a wire USB cable.

8. The slave apparatus according to Claim 2, wherein said USB is embodied as a wireless circuit.

9. The slave apparatus according to Claim 1, comprising displaying means of displaying information on a communication state including information concerning a communication mode presently set up in itself.

10. The digital camera comprising a slave apparatus according to Claim 1 and

capable of transmitting recorded-by-oneself data recorded by itself to said master device through said communication.

11. A communication setting method of setting a communication mode in a slave device capable of communicating with a master device through a predetermined communication bus and having a plurality of communication modes of diverse kinds, said method comprising:

a judging step of transmitting to said master device a

notification code of notifying a communication mode presently set up in said slave device, and then judging whether a command in response to said notification code is received from said master device within a predetermined time or not; and

a communication controlling step of performing control on the basis of a judgment result of said judging step in such a manner that when a command in response to said notification code is received from said master device within the predetermined time, said slave device is set into a state permitting communication with said master device in correspondence to the command, and that when said command is not received within said predetermined time, said slave device electrically releases connection to said master device temporarily and then restores said connection; wherein

in said communication controlling step, by the time when said slave device and said master device resume communication as a result of said restoration of connection, a communication mode is selected from a plurality of said communication modes so that its own communication mode is changed into one different from that used immediately before said release.

12. A program of causing a computer to serve, in a slave apparatus according to Claim 1, as: judging means of transmitting to said master device a notification code of notifying a presently set-up own communication mode, and then judging whether a command

in response to said notification code is received from said master device within a predetermined time or not; and communication controlling means of performing control on the basis of a judgment result of said judging means in such a manner that when a command in response to said notification code is received from said master device within the predetermined time, a state permitting communication with said master device is established in correspondence to the command, and that when said command is not received within said predetermined time, connection to said master device is electrically released temporarily and then said connection is restored.

13. A computer-processable recording medium carrying a program according to Claim 12.

14. An information processing apparatus comprising a slave apparatus according to Claim 1 and capable of communicating with said master device.